

**PART 1      GENERAL**

**1.1            DESCRIPTION**

- .1      This section specifies the requirements for supply and installation of mooring devices as follows:
  - .1      Supply and installation of Type “B1” mooring cleats.
  - .2      Supply and installation of mooring rings.

**1.2            RELATED SECTIONS**

- .1      Section 03 10 00 – Concrete Forming and Accessories
- .2      Section 03 20 00 – Concrete Reinforcing
- .3      Section 03 20 00 – Cast-in-Place Concrete

**1.3            MEASUREMENT PROCEDURES**

- .1      Mooring Cleats Type “B1”: The supply and installation of Type “B1” mooring cleats, including reinforced concrete pedestal, will be measured by the unit secured in place. Contractor to provide all concrete, reinforcing steel, anchor bolts, nuts, washers, grout fastenings, paint, plant, equipment and labour.
- .2      Mooring Rings: measure in number of units of each type installed.

**1.4            SUBMITTALS**

- .1      Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2      Product data: submit manufacturer's printed product literature, specifications and datasheet.

**PART 2      PRODUCTS**

**2.1            MATERIALS**

- .1      Mooring Devices:
  - .1      Mooring cleats Type “B1”: Galvanized cast iron cleats. 36.2 kg weight as dimensioned on drawings.
  - .2      Mooring Rings and Fittings: mild steel galvanized as per drawings.
  - .3      Anchor Bolts and Nuts: to ASTM A307, galvanized.
  - .4      Non-shrink Grout: pre-mixed compound of non-metallic aggregate and plasticizing agents, capable of developing minimum compressive strength of 50 MPa at 28 days.
  - .5      Galvanizing: to CSA G164, minimum zinc coating 610 g/m<sup>2</sup>.
  - .6      Welding: to CSA W59.
  - .7      Sealer: to Section 07 92 10.

- .8 Concrete: to Section 03 30 00.
- .9 Concrete Reinforcing: to CSA G30.12M, Grade 400.
- .10 Primer: Alkyd undercoat, exterior oil ferrous metal primer, similar to Pittsburgh 6-208.
- .11 Paint: Alkyd/Oil Resin paint in Red. Paint to conform to CAN/CGSB-16.1-2004.

## **2.2 SHOP DRAWINGS**

- .1 Submit fabricator's shop drawings on cleats in accordance with Section 01 33 00 – Submittal Procedures.

## **PART 3      EXECUTION**

### **3.1 INSTALLATION**

- .1 Mooring Cleats – Type “B1”
  - .1 Install concrete cleat block for Type “B1” cleats as per attached drawings.
  - .2 Install concrete cleat blocks monolithically with deck.
  - .3 Secure cleats with 25mm diameter anchor bolts of lengths required complete with associated nuts and washers.
  - .4 After cleat installation is complete, bolt holes in cleats to be filled with approved waterproofing compound.
- .2 Mooring Rings:
  - .1 Install mooring rings in wheelguard.

### **3.2 GROUT**

- .1 Set all mooring cleats at locations and elevations indicated or as directed by the Departmental Representative. Grout under base of cleat using a non-shrink, non-metallic type of grout after tightening of anchor bolts or positioning wedges. Grout must be approved by Departmental Representative. Fill anchor bolt holes with approved sealer. Ensure that temperatures of foundation, air, base and grout are within range specified by grout manufacturers.
- .2 Do not grout until approval given by Departmental Representative.

### **3.3 PAINTING**

- .1 Paint ferrous metal portion of mooring cleats.
- .2 Use one (1) coat of exterior oil ferrous metal primer and two (2) coats of alkyd/oil resin paint as specified. Paint materials for each coat to be product of a single manufacturer as specified. Ensure previous coat of primer or paint is dry before second coat is applied.

**3.4            CLEANING**

- .1        Proceed in accordance with Section 01 74 11 - Cleaning.
- .2        On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

**END OF SECTION**